

87. (Amended) The process of claim [82] 42 wherein the catalyst is 2,6-dimethyl pyridinium perchlorate.

88. A process for the organic synthesis of oligosaccharides which comprises

D<sup>4</sup> reacting a galactosamine or glucosamine with an iduronic or glucuronic acid to form a glycosylation -O-linkage,

removing at least one acyl group from a position which is inert in the glycosylation reaction to form an OH group,

reacting the OH group to form an [O-sulfate ester or O-phosphate ester] ester selected from the group consisting of O-sulfate ester and O-phosphate and

removing at least one substituted alkyl group to form a hydroxy group.--

#### R E M A R K S

Favorable reconsideration of this application is respectfully requested.

This application relates to novel synthetic oligosaccharides which are useful in the treatment of thrombosis, conjugates of the oligosaccharides, pharmaceutical compositions comprising the oligosaccharides, the use of the saccharides to detect and treat thrombosis and the process for making these new and useful compounds.

There remain 48 claims in this application, claims 41-88. Claims 42-52, 54, 56, 58, 60-61, 63-82 and 86-88 are rejected under 35 USC 112, second paragraph, as being functional, indefinite or alternative.

In response to the rejection, the following amendments have been made.

1. Claim 49 has been amended to recite the points of attachment.
2. Claims 51, 52, 54, 56, 58, 60, 61, 64 and 88 are now in Markush form and no longer indefinite or alternative.
3. Claims 70 and 71 have been amended to properly depend on claim 64.
4. Claims 53, 55, 57 and 59 have been amended to provide basis for claim 63.
5. Claims 52, 54, 56 and 58 have been amended to provide basis for claim 68.
6. Claim 87 has been amended to properly depend on claim 42.
7. Claim 50 has been amended to recite the structures for "a", "b" and "c". The remainder of the terminology is known to one skilled in the art. The Examiner's attention is directed to Biochemistry, Lehninger Worth Publishers, Inc. 1979 at page 261 (Exhibit 1) where the terminology is explained.

The remaining rejected terminology has been amended to place it in closer conformance with the requirements of 35 USC 112, paragraph 2.

Applicants submit that the claims are now in conformance with the requirements of 35 USC 112, paragraph 2.

There being no other rejection of claims 64-67, 70-82 and 85, it is believed that these claims are now in condition

for allowance and such action is respectfully requested.

Claims 42-48, 51-52, 54, 56, 58, 61 and 86-88 are rejected under 35 USC 112, first paragraph as the disclosure is enabling only for claims limited in accordance with the specification. The Examiner states that support is not seen for the terms "acyl", "alkyl" and "aracyl" and further that claims 42 and 88 are too broad in not setting forth the operable reaction conditions.

The terms "acyl", "alkyl" and "aryl" have been modified according to the following table.

<u>PRIOR TERM</u>	<u>AMENDED TERM</u>	<u>BASIS</u>
acyl	acyl from 1 to 7 carbons	acetyl p. 14 p-methoxy p. 34 benzoyl
alkyl	alkyl from 1 to 3 carbons	methyl p. 21 propenyl p. 32
substituted akyl	substituted aryl from 7 to 19 carbons	benzyl p. 21 trityl p. 53

The term "aryl" and "aracyl" no longer appear in the claims.

The rejection with respect to claims 42 and 88 is respectfully traversed. To restrict the claim with operable reaction conditions would unduly limit that which the Applicants believe to be the invention.

Applicants submit that in view of the above remarks and the amendments to the claims, the application is now in conformance with the requirements of 35 USC 112, paragraphs one and two.

Claims 42-48, 86-88 are rejected under 35 USC 103 as being unpatentable over each of the patents to Szarek et al, Nair et al, the PCT French patent, or the Kochetkon et al reference and further in combination with Turvey et al and Curtin et al. These rejections are respectfully traversed.

The Examiner asserts that each of the references discloses the conventional reaction between two sugar reactants in order to obtain a di, tri, or oligosaccharide in a conventional manner. With regard to the Examiner's remarks concerning the temperature of the glycosylation reaction, Applicants note that in this area of unpredictable chemistry and complex compounds it would not be obvious to one skilled in the art that the reaction would yield the expected product without rearrangement or loss of some or all of the protecting groups.

With respect to the rejection of claim 88, neither the Turvey et al reference or the Curtin et al reference discloses the debenzylation of protected hydroxy groups in the presence of sulfate groups. Further, the teaching of Turvey et al (Exhibit 1) that benzyl groups are not suitable for the temporary blocking of hydroxyl groups while concurrent sulfatation is carried out on another part of the molecule and that the presence of the sulfate group interferes in the debenzylation reaction would lead one skilled in the art away from the process of the instant invention.

Accordingly, Applicants believe that the process of the invention is patentable over the cited art and such action is

respectfully requested.

Should the Examiner believe that a telephone call to the undersigned or Gerard J. Weiser, attorney of record, would favorably advance the prosecution of this application or narrow the issues under consideration, she is respectfully invited to call at the telephone number indicated below.

Respectfully submitted,



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Enclosure: Exhibit 1

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